

9-9 Tactical Trucks

ITEM: M1114, M1116, and M1145 Up-Armored HMMWV's

SUBJECT: Front wheelwell fragmentation kit installation.

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COMMENTS: A wheelwell fragmentation kit has been developed to add increased protection in front wheelwell areas. Installation instructions have been developed for installing front underbody wheelwell armor and for modifying current configuration left front underbody armor assemblies to allow access for removal and installation of the brake hydro-booster.

MATERIALS/PARTS:

NSN (PART NUMBER)	NOMENCLATURE	QTY
(6434337-01M1) Green 383 or (6434337-200M1) Tan 686A	Kit, Fragmentation Number 2, M1114 Front Wheelwells	1
Consisting of:		
(6434241-01M1) Green 383 or (6434241-200M1) Tan 686A	Armor, Right Front Underbody Wheelwell	1
(6434836-01M1) Green 383 or (6434836-200M1) Tan 686A	Armor, Left Front Underbody Wheelwell-Lower	1
(6434835-01M1) Green 383 or (6434835-200M1) Tan 686A	Armor, Left Front Underbody Wheelwell-Upper	1
(6434240-01M1) Green 383 or (6434240-200M1) Tan 686A	Armor, Left Front Underbody Wheelwell-Upper Overlay	1
(6434245-01M1) Green 383 or (6434245-200M1) Tan 686A	Armor, Left Front Cowl-Outer	1
(6434243-01M1) Green 383 or (6434243-200M1) Tan 686A	Armor, Left Front Cowl-Lower	1
(6434368-01M1) Green 383 or (6434368-200M1) Tan 686A	Cover, Right Front Underbody Wheelwell	1
(6434875-01M1) Green 383 or (6434875-200M1) Tan 686A	Armor, Gapstrip, Left Front Underbody Wheelwell	1
(6434304-01M1)	Kit, Hardware-Front Underbody Wheelwells	1
Consisting of:		
5305-01-475-0361 (4397000-074)	Screw, Cap Hex Hd, .375-16 X 4.00	3
5305-00-857-6886 (4397000-076)	Screw, Cap Hex Hd, .375-16 X 4.50	4
(4397000-078)	Screw, Cap Hex Hd, .375-16 X 5.00	1
(6434369-01M1) Green 383 or (6434369-200M1) Tan 686A or (6434369-400M1) Tin Zinc	Washer, Ballistic-.375 Bolt	8
5310-01-439-8177 (4397064-005)	Nut, Hex Locking, .375-16	8
5306-01-430-7399 (4397000-006)	Screw, Cap Hex Hd, .250-20 X .750	4

MATERIALS/PARTS (Cont'd):

NSN (PART NUMBER)	NOMENCLATURE	QTY
5306-01-436-5392 (4397000-010)	Screw, Cap Hex Hd, .250-20 X 1.25	8
5306-01-420-6635 (4397000-012)	Screw, Cap Hex Hd, .250-20 X 1.50	2
5310-01-433-0941 (4397004-006)	Washer, Lock, .250	10
5340-01-417-8995 (4397005-011)	Washer, Flat, .250 USS	14
5310-01-439-8173 (4397064-001)	Nut, Hex Locking, .250-20	4

PROCEDURES:

A. Inspect vehicle as follows:

1. Apply vehicle parking brake. (Refer to TM 9-2320-387-10.)
2. Raise and secure hood. (Refer to TM 9-2320-387-10.)
3. In engine compartment, visually inspect left front underbody armor assembly (1 or 2) to determine which underbody configuration is installed. Refer to figure 1.

NOTE

- Original configuration left front underbody armor assemblies (with front support) do not need to be modified.
 - Current configuration left front underbody armor assemblies (without front support) shall be modified before installation of wheelwell fragmentation kit.
4. If current configuration left front underbody assembly (2) is installed, check dimension across top plate to determine if modification has been previously done. Refer to figure 1. If current configuration left front underbody assembly (2) has not been modified, proceed to step B. Skip to step E. if current configuration left front underbody assembly (2) has been modified.

B. Remove engine left splash shield. (Refer to TM 9-2320-387-24-2.)

C. Modify current configuration left front underbody armor assembly as follows:

1. Layout and draw cut lines on upper front panel of left front underbody armor assembly (1) as shown in figure 2.

NOTE

Use of a carbide drill bit and drilling at low speeds is recommended.

2. Drill one 3/8 inch diameter hole through upper front panel of left front underbody armor assembly (1), tangent to vertical and horizontal cut lines. Refer to figure 2.

WARNING

- Wear eye protection and mask when cutting material coated with CARC paint. Failure to do so may result in injury to personnel.
- Do not use cutting torch to remove material from left front underbody. Injury to personnel or damage to equipment may result.

CAUTION

- Cover left side windshield to prevent damage to ballistic glass.
 - Protect lines and wiring around cut area with metal backing plates to prevent damage to equipment.
3. Using a wiz wheel or equivalent, remove material from upper front panel of left front underbody armor assembly (1) by cutting along vertical and horizontal cut lines which are tangent to 3/8 inch diameter drilled hole. De-burr cut edges. Refer to figure 2.
 4. Repair finish all edges that have been cut or drilled using appropriate primer specified per MIL0C-53072.

NOTE

Brake hydro-booster may now be replaced per TM 9-2320-387-24-1.

D. Install engine left splash shield. (Refer to TM 9-2320-387-24-2.)

E. Prepare vehicle for front wheelwell fragmentation kit installation as follows:

1. Remove left and right front cowl insulation. (Refer to TM 9-2320-387-24-2.)
2. Remove driver side hood latch and side hood stop. (Refer to TM 9-2320-387-24-2.) If a spacer was installed under driver side hood latch and side hood stop, discard spacer.
3. Remove two capscrews (14), four socket head screws (12), four locknuts (1), and left front underbody side angle (13) from left front cowl (2) as shown in figure 3. Discard all parts.
4. Remove four capscrews (15) from front of left front underbody (3) as shown in figure 3. Discard capscrews (15).
5. Remove two locknuts (5), two capscrews (4), one upper kick panel wedge spacer (6), and one lower kick panel wedge spacer (7) from inboard side of left front underbody (3) as shown in figure 3. Discard capscrews (4) and locknuts (5). Note location and orientation of kick panel wedge spacers (6 and 7).

6. Remove two locknuts (8), two capscrews (9), one upper kick panel wedge spacer (11), and one lower kick panel wedge spacer (10) from outboard side of left front underbody (3) as shown in figure 3. Discard capscrews (9) and locknuts (8). Note location and orientation of kick panel wedge spacers (10 and 11).
7. Remove two locknuts (7), two capscrews (2), one upper kick panel wedge spacer (9), and one lower kick panel wedge spacer (8) from outboard side of right front underbody (1) as shown in figure 4. Discard capscrews (2) and locknuts (7). Note location and orientation of kick panel wedge spacers (8 and 9).
8. Remove two locknuts (3), two capscrews (5), one upper kick panel wedge spacer (4), and one lower kick panel wedge spacer (6) from inboard side of right front underbody (1) as shown in figure 4. Discard capscrews (5) and locknuts (3). Note location and orientation of kick panel wedge spacers (4 and 6).

F. Install right front underbody wheelwell armor as follows:

NOTE

When installing right front underbody wheelwell armor, ensure clearance holes in armor fit around existing fasteners.

1. **ORIGINAL CONFIGURATION right front underbody only.**
 - a. Place 6434241-01M1 or 6434241-200M1 right front underbody wheelwell armor (1) on front wheelwell section of right front underbody (12) and install one 4397000-074 capscrew (4), one 4397000-076 capscrew (5), two 6434369-01M1 or 6434369-200M1 or 6434369-400M1 ballistic washers (3), one existing upper kick panel wedge spacer (15), one existing lower kick panel wedge spacer (14), and two 4397064-005 locknuts (13) through outboard side of armor (1) as shown in figure 5. Do not tighten locknuts (13) at this time.
 - b. Install 6434368-01M1 or 6434368-200M1 right front underbody wheelwell cover (2) with one 4397000-076 capscrew (8), one 4397000-078 capscrew (11), two 6434369-01M1 or 6434369-200M1 or 6434369-400M1 ballistic washers (7), one existing upper kick panel wedge spacer (9), one existing lower kick panel wedge spacer (10), and two 4397064-005 locknuts (6) as shown in figure 5. Tighten two locknuts (6) and two locknuts (13) to 37 lb-ft (50.2 N·m).

2. CURRENT CONFIGURATION right front underbody only.

- a. Place 6434241-01M1 or 6434241-200M1 right front underbody wheelwell armor (1) on front wheelwell section of right front underbody (12) and install one 4397000-074 capscrew (4), one 4397000-076 capscrew (5), two 6434369-01M1 or 6434369-200M1 or 6434369-400M1 ballistic washers (3), one existing upper kick panel wedge spacer (15), one existing lower kick panel wedge spacer (14), and two 4397064-005 locknuts (13) through outboard side of armor (1) as shown in figure 5. Do not tighten locknuts (13) at this time.
- b. Install 6434368-01M1 or 6434368-200M1 right front underbody wheelwell cover (2) with one 4397000-076 capscrew (8), one 4397000-078 capscrew (11), two 6434369-01M1 or 6434369-200M1 or 6434369-400M1 ballistic washers (7), one existing upper kick panel wedge spacer (9), one existing lower kick panel wedge spacer (10), and two 4397064-005 locknuts (6) as shown in figure 5. Tighten two locknuts (6) and two locknuts (13) to 37 lb-ft (50.2 N·m).

G. Install left front underbody wheelwell lower armor as follows:

NOTE

When installing left front underbody wheelwell lower armor, ensure clearance holes in armor fit around existing fasteners.

1. ORIGINAL CONFIGURATION left front underbody only.

- a. Place 6434836-01M1 or 6434836-200M1 left front underbody wheelwell armor (10) on front wheelwell section of left front underbody (1) and install two 4397000-074 capscrews (2 and 11), two 6434369-01M1 or 6434369-200M1 or 6434369-400M1 ballistic washers (3), two existing upper kick panel wedge spacers (4), and two 4397064-005 locknuts (5) as shown in figure 6. Do not tighten locknuts (5) at this time.
- b. Install two 4397000-076 capscrews (8), two 6434369-01M1 or 6434369-200M1 or 6434369-400M1 ballistic washers (9), two existing lower kick panel wedge spacers (6), and two 4397064-005 locknuts (7) as shown in figure 6. Tighten four locknuts (5 and 7) to 37 lb-ft (50.2 N·m).

2. CURRENT CONFIGURATION left front underbody only.

- a. Place 6434836-01M1 or 6434836-200M1 left front underbody wheelwell armor (10) on front wheelwell section of left front underbody (1) and install two 4397000-074 capscrews (2 and 11), two 6434369-01M1 or 6434369-200M1 or 6434369-400M1 ballistic washers (3), two existing upper kick panel wedge spacers (4), and two 4397064-005 locknuts (5) as shown in figure 6. Do not tighten locknuts (5) at this time.
- b. Install two 4397000-076 capscrews (8), two 6434369-01M1 or 6434369-200M1 or 6434369-400M1 ballistic washers (9), two existing lower kick panel wedge spacers (6), and two 4397064-005 locknuts (7) as shown in figure 6. Tighten four locknuts (5 and 7) to 37 lb-ft (50.2 N·m).

H. Install left front underbody wheelwell upper armor as follows:

NOTE

When installing left front underbody wheelwell upper armor, ensure clearance holes in armor fit around existing fasteners.

1. ORIGINAL CONFIGURATION left front underbody only.

- a. Install 64342835-01M1 or 6434835-200M1 left front underbody wheelwell upper armor (4) on front cowl section of left front underbody (3) with two 4397000-010 capscrews (23), two 4397000-012 capscrews (1), four 4397004-006 lockwashers (24), and four 4397005-011 washers (2) as shown in figure 7. Tighten four capscrews (1 and 23) to 6 lb-ft (8.1 N·m).

NOTE

Install left front underbody wheelwell gapstrip armor with slotted holes facing inboard.

- b. Install 6434875-01M1 or 6434875-200M1 left front underbody wheelwell gapstrip armor (5) with three 4397000-006 capscrews (21), 4397004-006 lockwashers (22), and 4397005-011 washers (6) as shown in figure 7. Tighten three capscrews (21) to 10 lb-ft (13.6 N·m).

2. CURRENT CONFIGURATION left front underbody only.

- a. Install 64342835-01M1 or 6434835-200M1 left front underbody wheelwell upper armor (8) on front cowl section of left front underbody (7) with two 4397000-010 capscrews (14), two 4397004-006 lockwashers (15), and two 4397005-011 washers (13) as shown in figure 7. Do not tighten capscrews (13) at this time.

- b. Slide 6434240-01M1 or 6434240-200M1 left front underbody wheelwell upper overlay armor (20) down in mounting position and install two 4397000-012 capscrews (19), one 4397000-006 capscREW (18), three 4397004-006 lockwashers (16), and three 4397005-011 washers (17) as shown in figure 7. Tighten four capscrews (14 and 19) to 6 lb-ft (8.1 N·m) and capscREW (18) to 10 lb-ft (13.6 N·m).

NOTE

Install left front underbody wheelwell gapstrip armor
with slotted holes facing inboard.

- c. Install 6434875-01M1 or 6434875-200M1 left front underbody wheelwell gapstrip armor (9) with three 4397000-006 capscrews (11), 4397004-006 lockwashers (12), and 4397005-011 washers (10) as shown in figure 7. Tighten three capscrews (11) to 10 lb-ft (13.6 N·m).

I. Install left front cowl armor as follows:

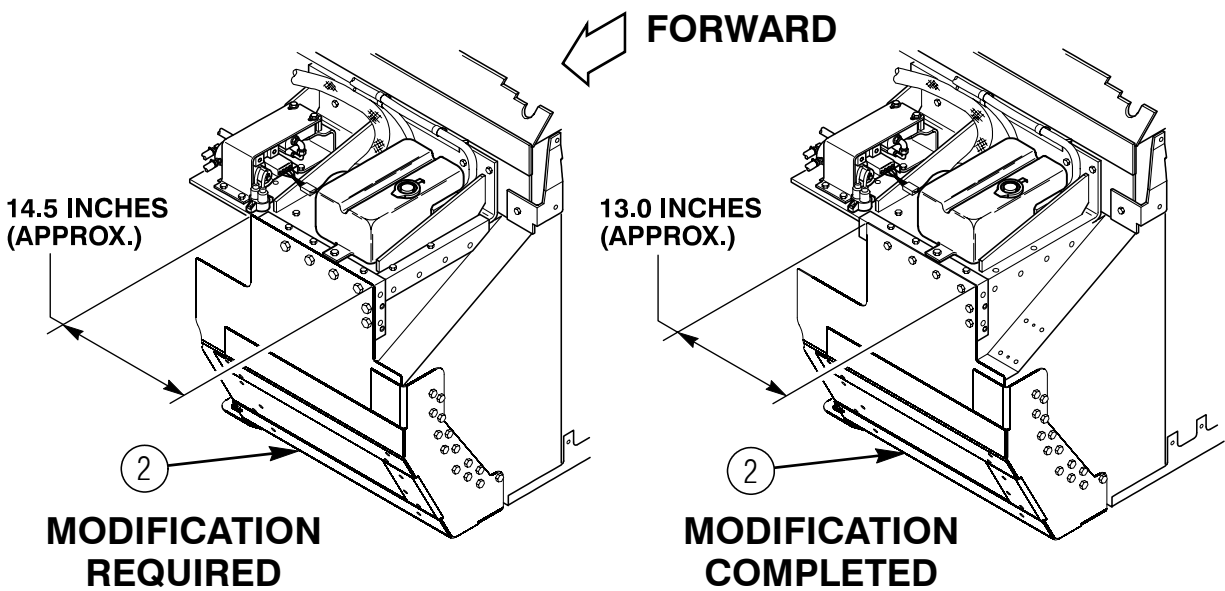
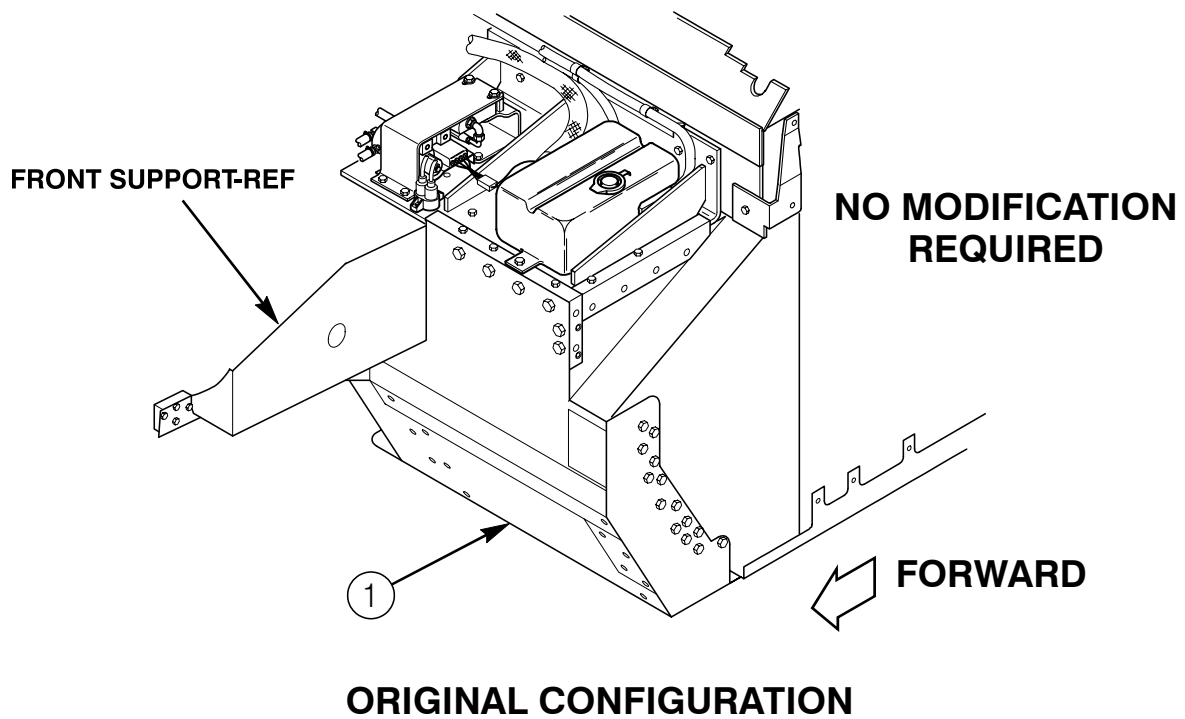
1. Install 6434245-01M1 or 6434245-200M1 left front cowl outer armor (7) on left front cowl (3) with six 4397000-010 capscrews (4 and 8), two 4397004-006 lockwashers (6), six 4397005-011 washers (5), and four 4397064-001 locknuts (2) as shown in figure 8. Tighten two capscrews (4) to 6 lb-ft (8.1 N·m) and four capscrews (8) to 10 lb-ft (13.6 N·m).
2. Place 6434243-01M1 or 6434243-200M1 left front cowl lower armor (1) on left front cowl (3) as show in figure 8. Align mounting holes.
3. Install driver side hood stop and hood latch. (Refer to TM 9-2320-387-24-2.)

J. Complete installation as follows:

1. Install left and right front cowl insulation. (Refer to TM 9-2320-387-24-2.)
2. Lower and secure hood. (Refer to TM 9-2320-387-10.)

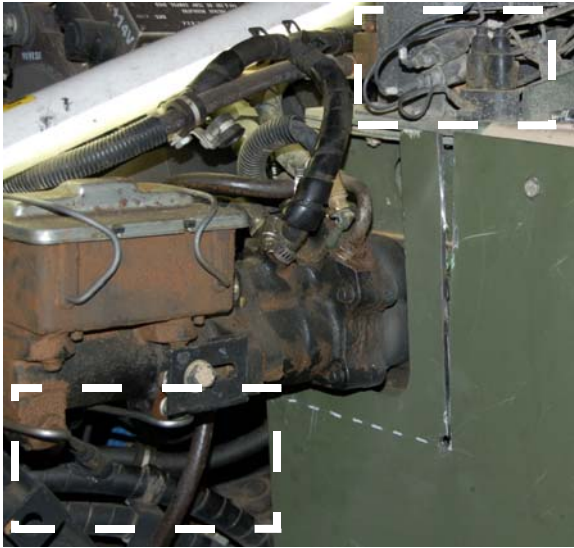
PUBLICATIONS AFFECTED: TM 9-2320-387-24-2 and TM 9-2320-387-24

LEVEL OF MAINTENANCE: Unit



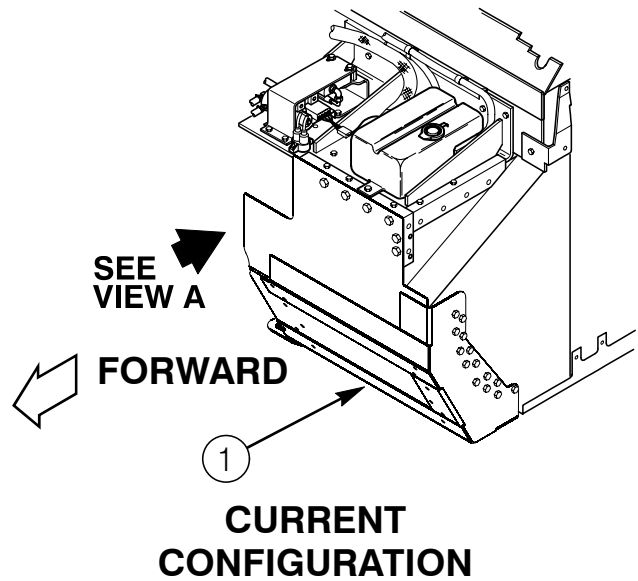
CURRENT CONFIGURATION

Figure 1.



PROTECT AREAS WITH METAL BACKING PLATES BEFORE CUTTING LEFT FRONT UNDERBODY.

MODIFICATION REQUIRED



VIEW A

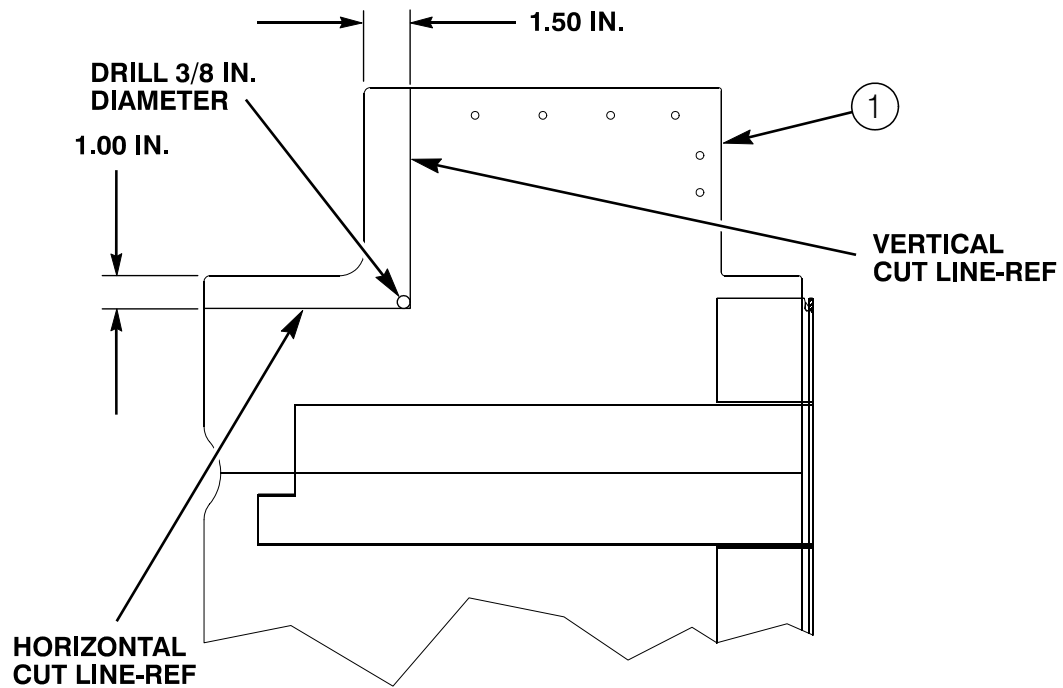


Figure 2.

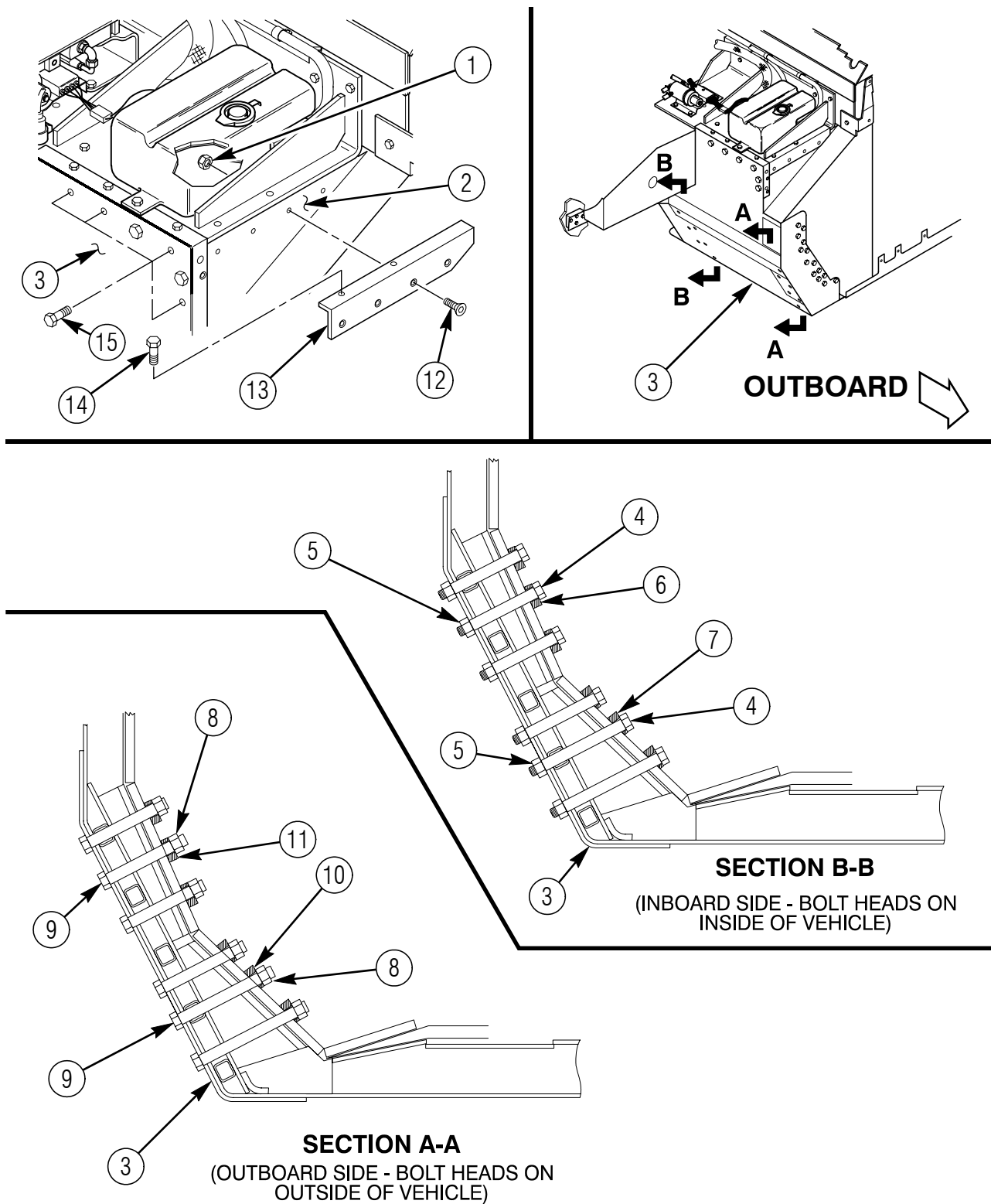


Figure 3.

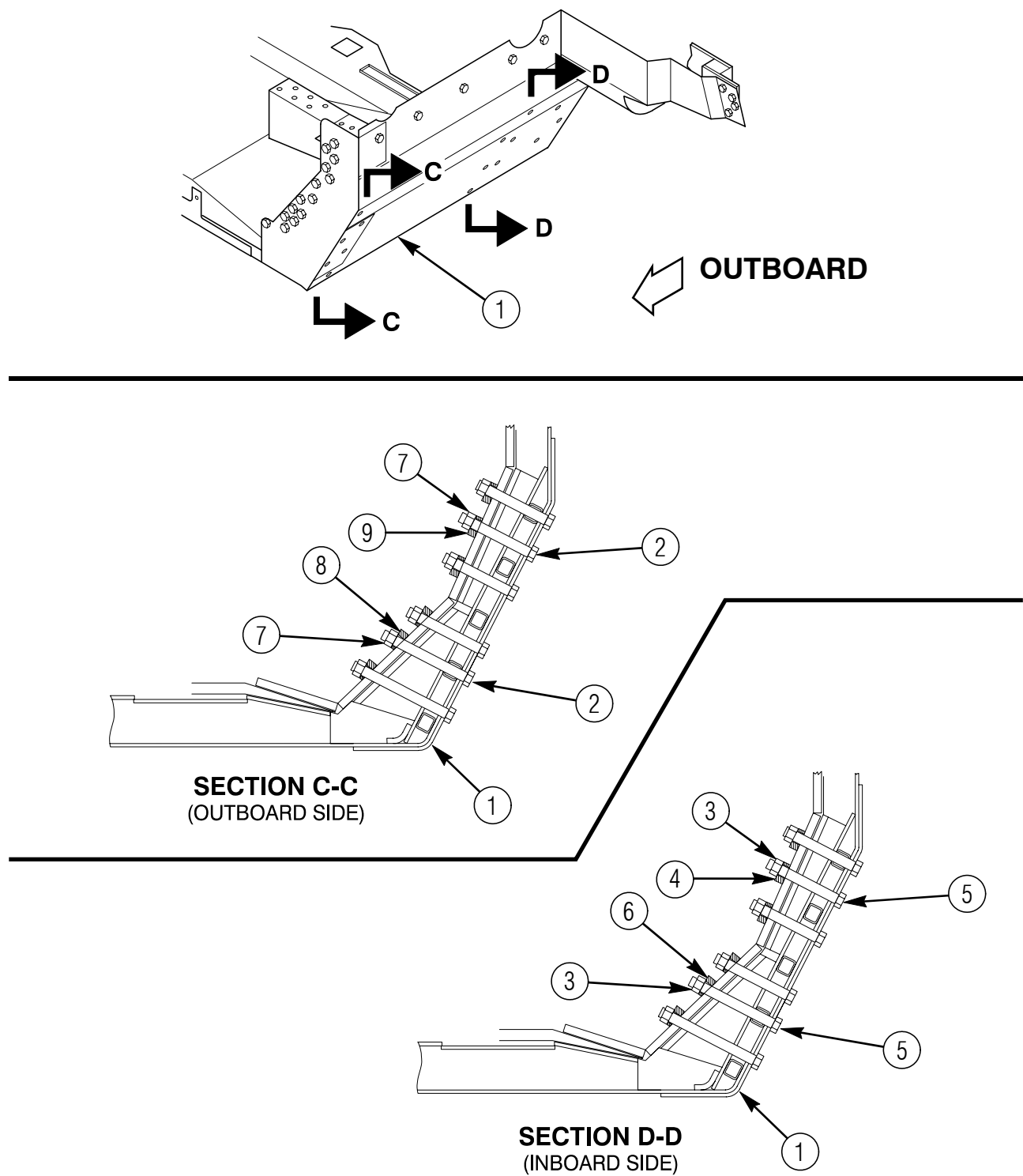


Figure 4.

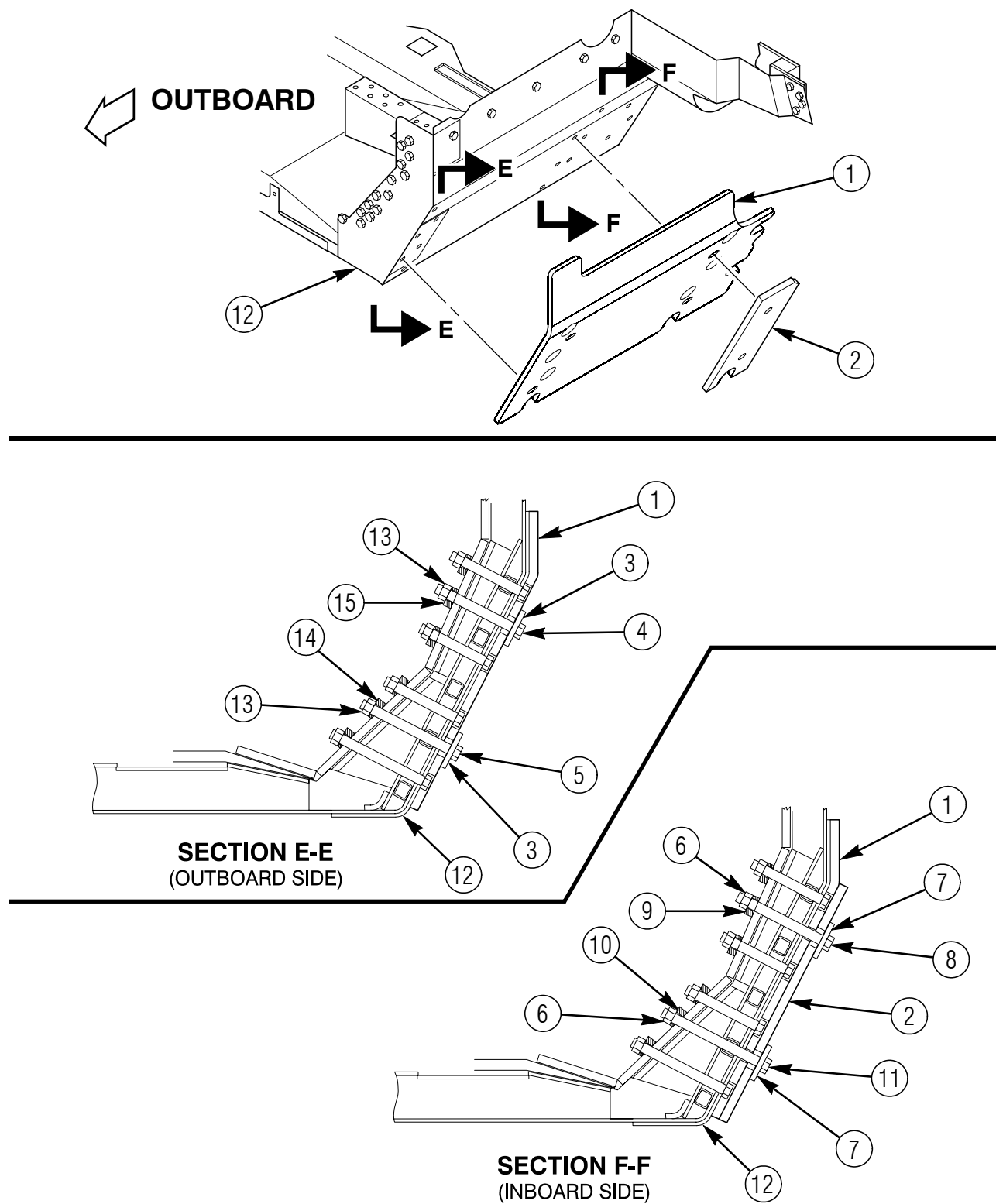


Figure 5.

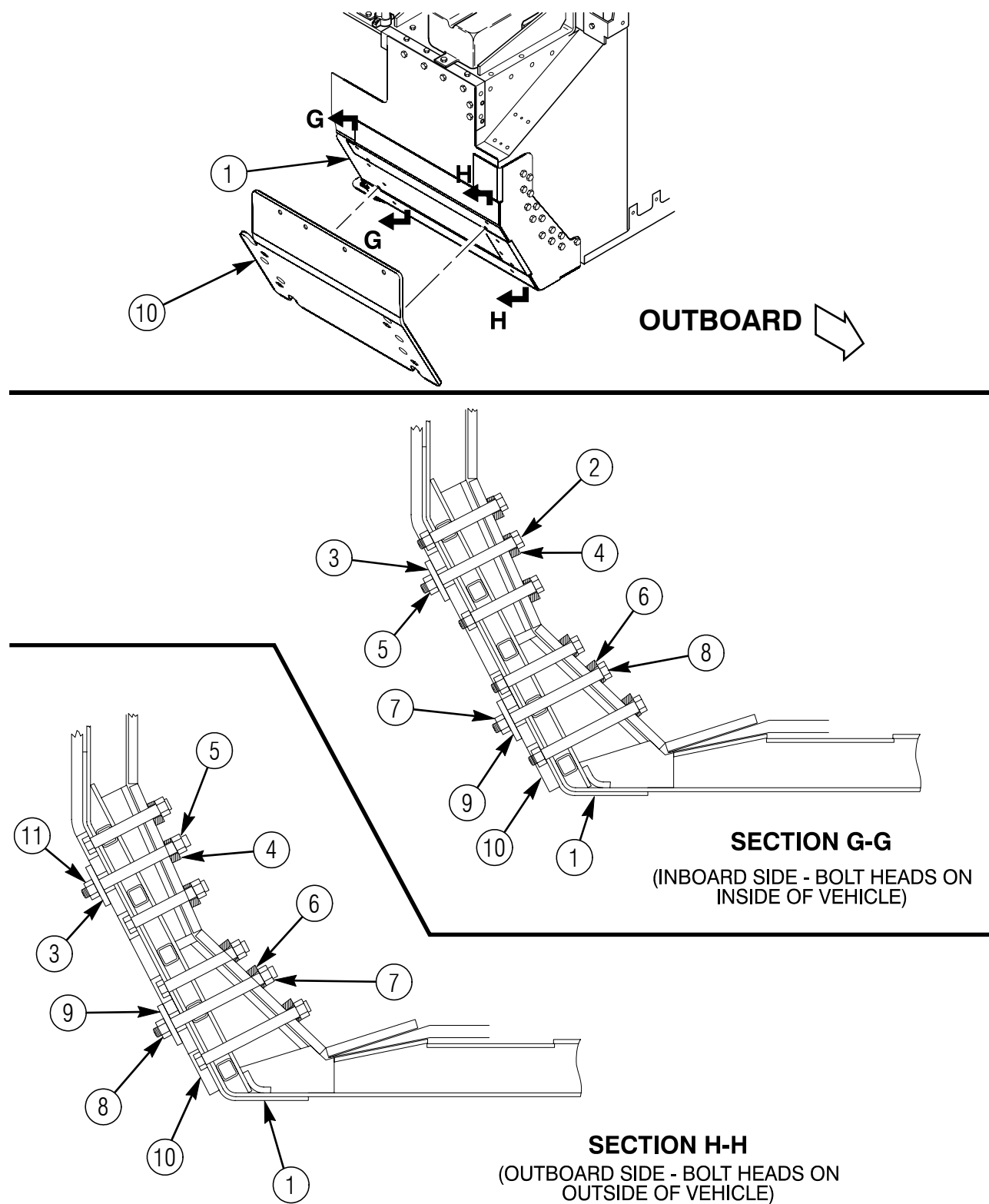


Figure 6.

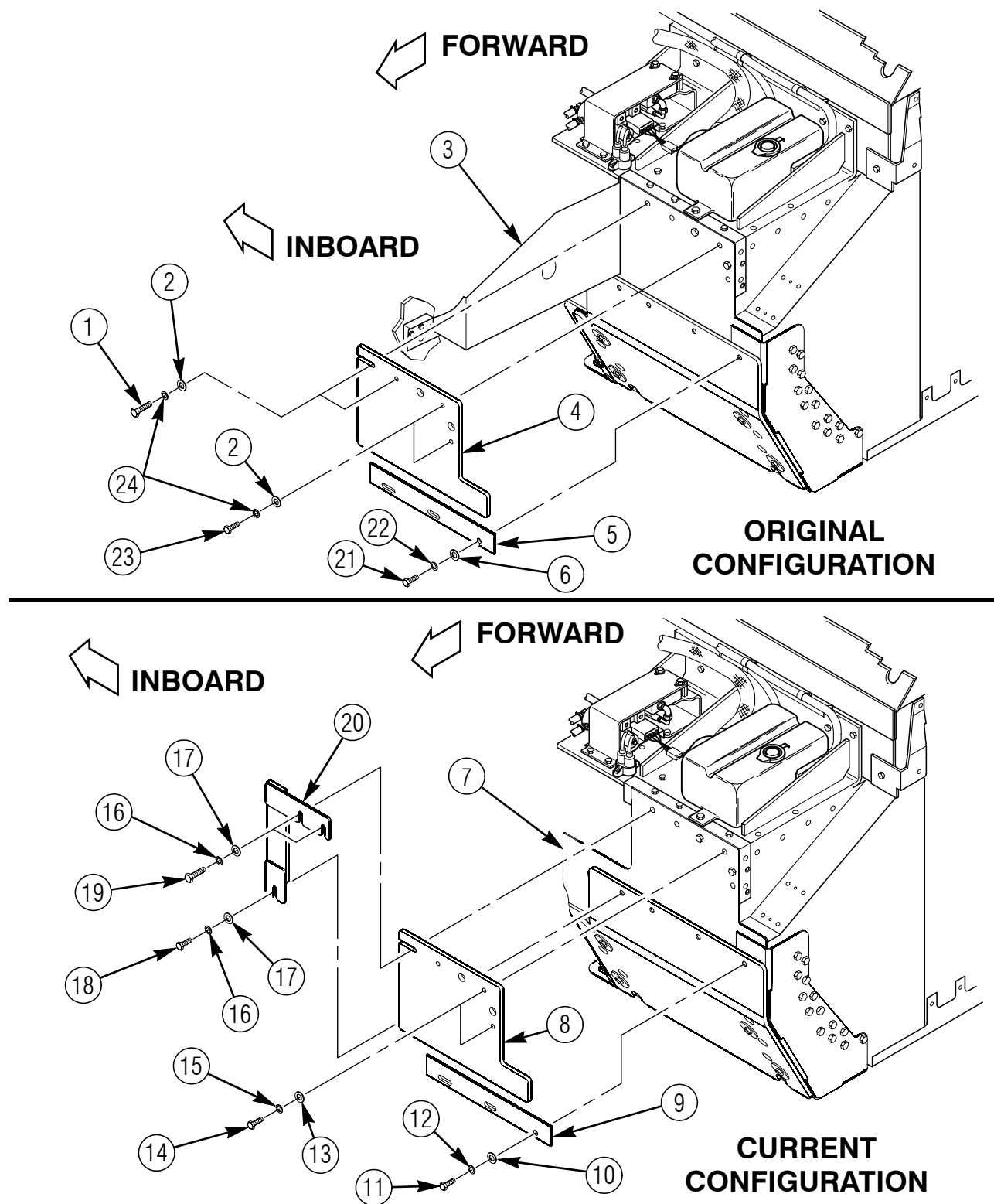


Figure 7.

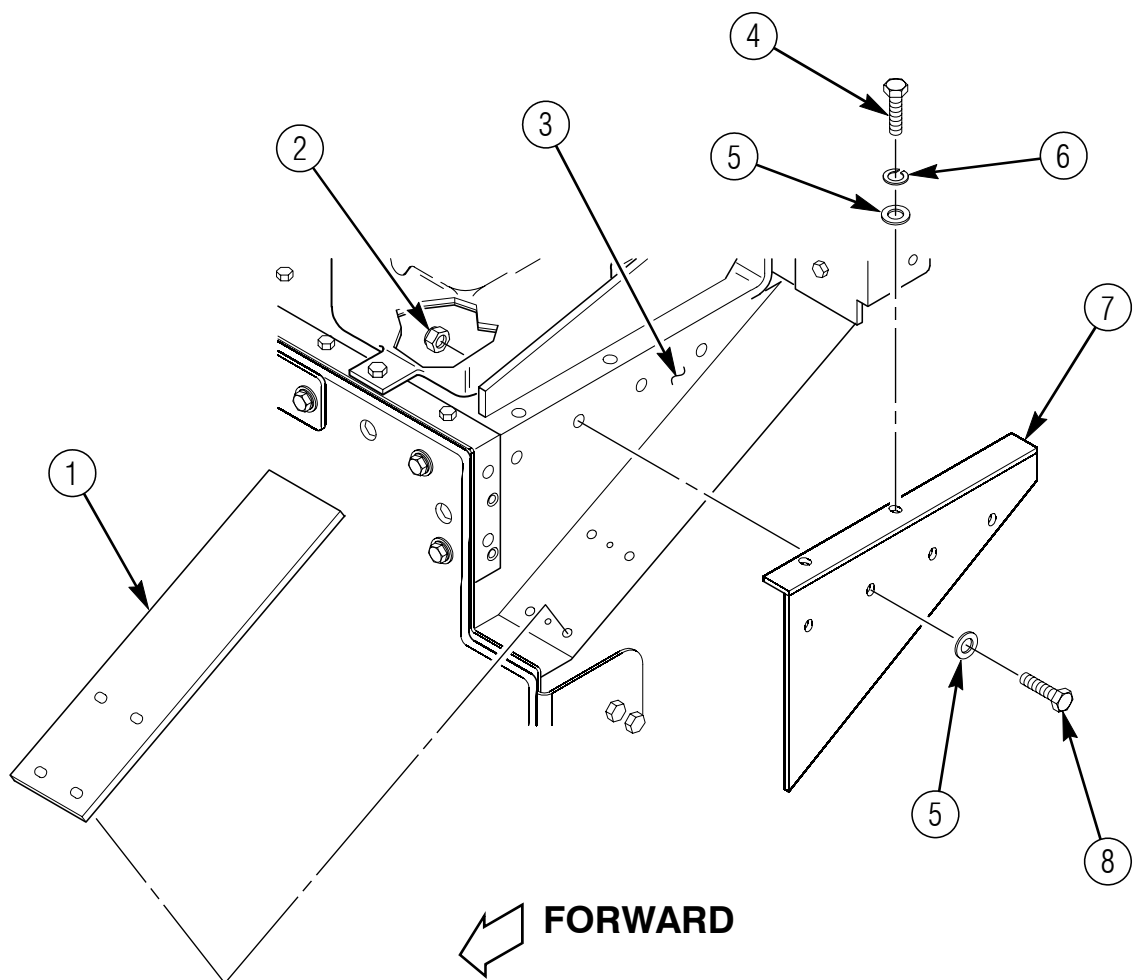


Figure 8.